

OIEP

RAW SEQUENCE LISTING  
 PATENT APPLICATION: US/09/920,705

DATE: 08/13/2001  
 TIME: 11:35:37

Input Set : A:\Uw972141.app  
 Output Set: N:\CRF3\08132001\I920705.raw

ENTERED

3 <110> APPLICANT: Amasino, Richard M.  
 4 Schomburg, Fritz M.  
 5 Michaels, Scott D.  
 6 Patton, David  
 8 <120> TITLE OF INVENTION: Floral Induction Gene  
 10 <130> FILE REFERENCE: 960296.97214  
 C--> 12 <140> CURRENT APPLICATION NUMBER: US/09/920,705  
 C--> 13 <141> CURRENT FILING DATE: 2001-08-02  
 15 <160> NUMBER OF SEQ ID NOS: 6  
 17 <170> SOFTWARE: PatentIn Ver. 2.1  
 19 <210> SEQ ID NO: 1  
 20 <211> LENGTH: 4593  
 21 <212> TYPE: DNA  
 22 <213> ORGANISM: Arabidopsis thaliana  
 24 <400> SEQUENCE: 1  
 25 atggcggttat ctatgaagcc attcagagcc gatgattccg gtttccagtc aaacaatctt 60  
 26 tgggtcggtta gcctaaccgc ggagacgaca gagtcagatc tgaccgagtt gtttggaaga 120  
 27 tacggcgata ttgatagaat cacggtgtat tcttcacgag gctttgcgtt tatatactac 180  
 28 agacatgttg aggaagcagt cgcagccaaa gaggtctctc aaggagcaaa tttgaatgga 240  
 29 agtcaaatta agatcgaata cgcacgaccg gtttgttctt atctatatct tcgtttgttc 300  
 30 tctaactttg attgtctttt gtcaacgatt atactctttt tgcgaattca tagtccaggt 360  
 31 tcacaaaact ttgatgatgc ttgttttagtc caaaaatttc ttgttgaatc tgtttttttt 420  
 32 ttctctcatcg tacaaatcaa agtcgaaacc tagttttttt ctattatacg tcgttagctt 480  
 33 aaggcgaaac ctgatccgat cgaaacgtct tttctcaaat tacttttggtt atatcgaact 540  
 34 cgcgcaaagc caaaccacag agaagctctg caaaatttga tgtaaagca tatataactc 600  
 35 ttagcgaatg agctctgcaa aagaatacat caaacacatg tttactctcg tttatgcgaa 660  
 36 gaagggttaa tccgattgtc gtttatctgc aaacttgtat ccgcgtttag cagtctgatt 720  
 37 tcagggttcgc ttcagatggt aaatctcaca agcttgagta tgaatgtatt gcgtactcca 780  
 38 ctogaaattc gcaatggtga aaatttgga ggcagcaaac tctatcatcg gccaaacaga 840  
 39 taagaaattt tggagtttaa agtttcagtt tcctgcaaaa atcaaaccgc gtggagaaat 900  
 40 ttgtctatgg cggtagctag atatcaataa ctgcactctg gaaacagaaa attctggcaa 960  
 41 ccgtatcgtc ctaactccta gtatcgctgg cacatatcca tatcagtgtg agggagtttt 1020  
 42 gggcttggtt tggctcgatg cttcaggaag acaaattacg tggttgttaa ggcggctaac 1080  
 43 tctaccaatc agaaacgctt tattcgaaga accatgtttg ttctcaatt cccatcccta 1140  
 44 cgtacaatct gggctttccc attgtagtct cttaggaagt tgacttcttc acaaccattc 1200  
 45 tgggttggtt acagttgcag tggacaagac aaatattcat ttgcaggcag actcaaattt 1260  
 46 caatgtcttg ccggttttga gtacttaaat ggagtgttca gggattggtt tatttgggac 1320  
 47 tcaggcaatg gataaagaca ggaatgtttt gcagaaagta ttaatgtctt tccggctttg 1380  
 48 gggactacat acttctccta cagacaaaat ctgatgttta ggcaagagaa actattaaca 1440  
 49 ctgatttaat agagaaagag gagatggttt ctccctgcgg caattttatt tgtttaggaa 1500  
 50 agcaattgat atgaattggt gtcgtagtgt agttgaaatt actagttagt ttgtgtgttt 1560  
 51 agtttcttg atgtttgatg ctttattctt ggcaacctat ctgggtagta tcgccttctt 1620  
 52 atcgaccttt tcttgttgca ggcaaacctt tgtaagagtc tatgggtggg tggaaatcggc 1680  
 53 cctaattgtc ccaaggatga cctggaggaa gagttcagca agtttgggaa aatcgaggat 1740  
 54 tttaggtttc tcagagaacg caagacagct ttcattgatt attatgagat ggatgatgct 1800  
 55 ttacaggcta agagcatgaa tggaaagcct atgggtggtg gcttttttgc tgttgatttt 1860  
 56 ctccggtcac aagcgccaaa aaaagtaagc actcttgttg catttgattt ttacttttga 1920

## RAW SEQUENCE LISTING

DATE: 08/13/2001

PATENT APPLICATION: US/09/920,705

TIME: 11:35:37

Input Set : A:\Uw972141.app

Output Set: N:\CRF3\08132001\I920705.raw

```

57 aaacgctcca gtaaacattt tgttttagttt cataatttgc gtcaaactga tagggctgag 1980
58 ctctgtcttg tgccctagg agcagtattt actcgtctct atttcattgt agagtaggct 2040
59 caacttctta agtctgaaat caagttacct ttgtgttata ttcaggaaca atgggctggc 2100
60 tcttacgata acagaaatgg caatatgaat cataaacccg aggttagtct tgaatgttga 2160
61 aagtatgtct cttgttacta gtgatatgta taggttactg gttttgacgt tttgttatat 2220
62 tcttacagta tctcactca tatgaagact ttaaaggaga tgtccagcca agtaagggtc 2280
63 tgtggattgg gttccctcct actgctacac aatgcaatga tgagcaaatt ctgcacaatg 2340
64 cgatgatact ctttgggtgag atcgagaggg taaaaagtta cccatcaagg aattttgcac 2400
65 ttgtggagtt taggagcgcg gaggaagctc gccaatgcaa ggaaggccta caggggaggt 2460
66 tattcaataa tcttagaatc aaaattatgt actcaaacga tgagttgcct cctgagcaag 2520
67 acgatactag tttttactct ggtatgaac ggtcaaggac agatatgttc aataatgatc 2580
68 cttcatttgt atcttctcct cattctactg gaattcctgg gtctatgagg cccctcagag 2640
69 gtacaaatga gcgttcatat aatggtgcag aatacaatga cgttgttggg aaggagccaa 2700
70 actggaggag gccatctgca aatggaactg gaatactccc atctccaaca ggacctggaa 2760
71 tctcccatc tctgcacaa ggtacgaggc gccctatgag gtcaaaccoc gattcttggg 2820
72 aaggatatga tctgctcag ttggtcagag aaagtaaagc aaccagaaga gatggatcag 2880
73 tggacggttt tactccaatg ggtgtcgatg agaggtcatt tggtcgaggt tcagttgctg 2940
74 ctagacctat cgtggccccc cctgattctg atcacatatg gagaggaatg attgccaagg 3000
75 gtggaactcc cgtctgttgt gctcgttgtg tacctatggg aaaggggatt gaaactaaac 3060
76 tgtgagtact aatttctagc actttaaccc ttctagtgtt ttctttttca gagcgattta 3120
77 tatattttcc atttcattct cgatggaagt aacattatta tagatagtag atttttattt 3180
78 tactattact tgtttagttt ctgagatgtc ttgattttca tgggtgttgat tcatttttgg 3240
79 cattgccctc aattactgac tttgtttttt ttttaataat tgatttatag gcctgaggtc 3300
80 gtcaattgtt cagcaagaac tgatttgaat atgctcgcta aacattacgc cgttgccatt 3360
81 ggatgtgaga tcgttttttt cgtaccagac agggaagaag attttgcgtc ttactactgaa 3420
82 tttctccggt accttagctc aaaagatcgg gcgggtgttg ccaaattaga tgatggtaca 3480
83 actttattct tgggtgcctcc atcagatttc ttaactgatg tactccaagt gaccgcgtaa 3540
84 gaacggctat atggtgttgt tctcaagtta ccccgccag ccgttcctgt tacagcatca 3600
85 tacagacaag aatctcagtc caatcctctg cattatatgg atcaagcccg ggattcacct 3660
86 gccaatgcta gtcacagttt atatcctcct agggaaaatt acattagggg tgcaccagaa 3720
87 catttgacag ctgcttcaaa accatctgtt agcagacctc tcagaatacc taataatgca 3780
88 gcgcctcaag ctgggggttag tttaactccg gagcttttag ccactctggc atctattctc 3840
89 cctgcaactt ctcaacctgc tgccctgag agtcaccaac ctatgtcagg accttcaaca 3900
90 gttgtttcca cagcacatca gtccaatgga ctgtacaatg gagaagcacc gtctcaagct 3960
91 tggaaaagag gtccacaaac agttcatgat gcgtcaaate agtcattcca acaatacggg 4020
92 aatcagtaca ctccagctgg gcaactacct cctcctcctt cgcgttacct tccagcttca 4080
93 aacaacccca actacactag tggaaatggtc catggcaaca tgcaatacca gagccaatct 4140
94 gttaacatgc ctccagctgc tccgttacca aatatgcctc ataataatta ttccatgtac 4200
95 actcaggggt cgtcaaatac tctgtttct cagcccatgg tccagcaata ccaaccagaa 4260
96 gcgtccatgc caaaccaaaa ctatggtcca attccaagtt atcagcaagc taattttcat 4320
97 ggcgtaacaa caaatcaggc acagaactta aaccttccc aatttcaagc tgccatgcaa 4380
98 ccaccagcag ataaggcaaa tttagagcca caaaaccaag cactacgatt gcagcctatg 4440
99 atctctgggg atggtcaggg tacaacagat ggggaggtcg ataagaatca gagataccag 4500
100 tcaacactac aatttgcagc aaaccttctt ctccagatac agcagaaaca gcagcaacag 4560
101 tcttcaggta ctccggctgg acaggggcct tga 4593

```

104 &lt;210&gt; SEQ ID NO: 2

105 &lt;211&gt; LENGTH: 2706

106 &lt;212&gt; TYPE: DNA

107 &lt;213&gt; ORGANISM: Arabidopsis thaliana

## RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/920,705

DATE: 08/13/2001

TIME: 11:35:37

Input Set : A:\Uw972141.app

Output Set: N:\CRF3\08132001\I920705.raw

```

109 <220> FEATURE:
110 <221> NAME/KEY: CDS
111 <222> LOCATION: (1)..(2706)
113 <220> FEATURE:
114 <221> NAME/KEY: misc_binding
115 <222> LOCATION: (46)..(279)
116 <223> OTHER INFORMATION: RNA Binding Region
118 <220> FEATURE:
119 <221> NAME/KEY: misc_binding
120 <222> LOCATION: (283)..(522)
121 <223> OTHER INFORMATION: RNA Binding Region
123 <220> FEATURE:
124 <221> NAME/KEY: misc_binding
125 <222> LOCATION: (610)..(852)
126 <223> OTHER INFORMATION: RNA Binding Region
128 <400> SEQUENCE: 2
129 atg gcg tta tct atg aag cca ttc aga gcc gat gat tcc ggt ttc cag 48
130 Met Ala Leu Ser Met Lys Pro Phe Arg Ala Asp Asp Ser Gly Phe Gln
131 1 5 10 15
133 tca aac aat ctt tgg gtc ggt agc cta acg ccg gag acg aca gag tca 96
134 Ser Asn Asn Leu Trp Val Gly Ser Leu Thr Pro Glu Thr Thr Glu Ser
135 20 25 30
137 gat ctg acc gag ttg ttt gga aga tac ggc gat att gat aga atc acg 144
138 Asp Leu Thr Glu Leu Phe Gly Arg Tyr Gly Asp Ile Asp Arg Ile Thr
139 35 40 45
141 gtg tat tct tca cga ggc ttt gcg ttt ata tac tac aga cat gtg gag 192
142 Val Tyr Ser Ser Arg Gly Phe Ala Phe Ile Tyr Tyr Arg His Val Glu
143 50 55 60
145 gaa gca gtc gca gcc aaa gag gct ctt caa gga gca aat ttg aat gga 240
146 Glu Ala Val Ala Ala Lys Glu Ala Leu Gln Gly Ala Asn Leu Asn Gly
147 65 70 75 80
149 agt caa att aag atc gaa tac gca cga ccg gca aaa cct tgt aag agt 288
150 Ser Gln Ile Lys Ile Glu Tyr Ala Arg Pro Ala Lys Pro Cys Lys Ser
151 85 90 95
153 cta tgg gtg ggt gga atc ggc cct aat gtc tcc aag gat gac ctg gag 336
154 Leu Trp Val Gly Gly Ile Gly Pro Asn Val Ser Lys Asp Asp Leu Glu
155 100 105 110
157 gaa gag ttc agc aag ttt ggg aaa atc gag gat ttt agg ttt ctc aga 384
158 Glu Glu Phe Ser Lys Phe Gly Lys Ile Glu Asp Phe Arg Phe Leu Arg
159 115 120 125
161 gaa cgc aag aca gct ttc att gat tat tat gag atg gat gat gct tta 432
162 Glu Arg Lys Thr Ala Phe Ile Asp Tyr Tyr Glu Met Asp Asp Ala Leu
163 130 135 140
165 cag gct aag agc atg aat gga aag cct atg ggt ggt agc ttt ttg cgt 480
166 Gln Ala Lys Ser Met Asn Gly Lys Pro Met Gly Gly Ser Phe Leu Arg
167 145 150 155 160
169 gtt gat ttt ctc cgg tca caa gcg cca aaa aaa gaa caa tgg gct ggc 528
170 Val Asp Phe Leu Arg Ser Gln Ala Pro Lys Lys Glu Gln Trp Ala Gly
171 165 170 175

```

## RAW SEQUENCE LISTING

DATE: 08/13/2001

PATENT APPLICATION: US/09/920,705

TIME: 11:35:37

Input Set : A:\Uw972141.app

Output Set: N:\CRF3\08132001\I920705.raw

173	tct	tac	gat	aac	aga	aat	ggc	aat	atg	aat	cat	aaa	ccg	cag	tat	cct	576
174	Ser	Tyr	Asp	Asn	Arg	Asn	Gly	Asn	Met	Asn	His	Lys	Pro	Gln	Tyr	Pro	
175				180				185						190			
177	cac	tca	tat	gaa	gac	ttt	aaa	gga	gat	gtc	cag	cca	agt	aag	gtt	ctg	624
178	His	Ser	Tyr	Glu	Asp	Phe	Lys	Gly	Asp	Val	Gln	Pro	Ser	Lys	Val	Leu	
179			195					200						205			
181	tgg	att	ggg	ttc	cct	cct	act	gct	aca	caa	tgc	aat	gat	gag	caa	att	672
182	Trp	Ile	Gly	Phe	Pro	Pro	Thr	Ala	Thr	Gln	Cys	Asn	Asp	Glu	Gln	Ile	
183		210						215						220			
185	ctg	cac	aat	gcg	atg	ata	ctc	ttt	ggt	gag	atc	gag	agg	gta	aaa	agt	720
186	Leu	His	Asn	Ala	Met	Ile	Leu	Phe	Gly	Glu	Ile	Glu	Arg	Val	Lys	Ser	
187	225					230					235					240	
189	tac	cca	tca	agg	aat	ttt	gca	ctt	gtg	gag	ttt	agg	agc	gcg	gag	gaa	768
190	Tyr	Pro	Ser	Arg	Asn	Phe	Ala	Leu	Val	Glu	Phe	Arg	Ser	Ala	Glu	Glu	
191				245						250					255		
193	gct	cgc	caa	tgc	aag	gaa	ggc	cta	cag	ggg	agg	tta	ttc	aat	aat	cct	816
194	Ala	Arg	Gln	Cys	Lys	Glu	Gly	Leu	Gln	Gly	Arg	Leu	Phe	Asn	Asn	Pro	
195				260				265						270			
197	aga	atc	aaa	att	atg	tac	tca	aac	gat	gag	ttg	cct	cct	gag	caa	gac	864
198	Arg	Ile	Lys	Ile	Met	Tyr	Ser	Asn	Asp	Glu	Leu	Pro	Pro	Glu	Gln	Asp	
199			275					280						285			
201	gat	act	agt	ttt	tac	tct	ggt	atg	aaa	cgg	tca	agg	aca	gat	atg	ttc	912
202	Asp	Thr	Ser	Phe	Tyr	Ser	Gly	Met	Lys	Arg	Ser	Arg	Thr	Asp	Met	Phe	
203		290					295					300					
205	aat	aat	gat	cct	tca	tgt	gta	tct	tct	cct	cat	tct	act	gga	att	cct	960
206	Asn	Asn	Asp	Pro	Ser	Cys	Val	Ser	Ser	Pro	His	Ser	Thr	Gly	Ile	Pro	
207	305				310					315					320		
209	ggg	tct	atg	agg	ccc	ctc	aga	ggt	acg	aat	gag	cgt	tca	tat	aat	ggt	1008
210	Gly	Ser	Met	Arg	Pro	Leu	Arg	Gly	Thr	Asn	Glu	Arg	Ser	Tyr	Asn	Gly	
211				325				330						335			
213	gca	gaa	tac	aat	gac	gtt	gtt	ggt	aag	gag	cca	aac	tgg	agg	agg	cca	1056
214	Ala	Glu	Tyr	Asn	Asp	Val	Val	Gly	Lys	Glu	Pro	Asn	Trp	Arg	Arg	Pro	
215				340				345						350			
217	tct	gca	aat	gga	act	gga	ata	ctc	cca	tct	cca	aca	gga	cct	gga	atc	1104
218	Ser	Ala	Asn	Gly	Thr	Gly	Ile	Leu	Pro	Ser	Pro	Thr	Gly	Pro	Gly	Ile	
219			355				360							365			
221	ctc	cca	tct	cct	gca	caa	ggt	acg	agg	cgc	cct	atg	agg	tca	aac	ccc	1152
222	Leu	Pro	Ser	Pro	Ala	Gln	Gly	Thr	Arg	Arg	Pro	Met	Arg	Ser	Asn	Pro	
223		370					375					380					
225	gat	tct	tgg	gaa	gga	tat	gat	cct	gct	cag	ttg	gtc	aga	gaa	agt	aaa	1200
226	Asp	Ser	Trp	Glu	Gly	Tyr	Asp	Pro	Ala	Gln	Leu	Val	Arg	Glu	Ser	Lys	
227	385				390					395					400		
229	cga	acc	aga	aga	gat	gga	tca	gtg	gac	ggt	ttt	act	cca	atg	ggt	gtc	1248
230	Arg	Thr	Arg	Arg	Asp	Gly	Ser	Val	Asp	Gly	Phe	Thr	Pro	Met	Gly	Val	
231				405						410					415		
233	gat	gag	agg	tca	ttt	ggt	cga	ggt	tca	gtt	gct	gct	aga	cct	atc	cgt	1296
234	Asp	Glu	Arg	Ser	Phe	Gly	Arg	Gly	Ser	Val	Ala	Ala	Arg	Pro	Ile	Arg	
235				420				425						430			
237	ggc	ccc	cct	gat	tct	gat	cac	ata	tgg	aga	gga	atg	att	gcc	aag	ggt	1344

## RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/920,705

DATE: 08/13/2001

TIME: 11:35:37

Input Set : A:\Uw972141.app

Output Set: N:\CRF3\08132001\I920705.raw

```

238 Gly Pro Pro Asp Ser Asp His Ile Trp Arg Gly Met Ile Ala Lys Gly
239          435          440          445
241 gga act ccc gtc tgt tgt gct cgt tgt gta cct atg gga aag ggg att 1392
242 Gly Thr Pro Val Cys Cys Ala Arg Cys Val Pro Met Gly Lys Gly Ile
243          450          455          460
245 gaa act aaa ctg cct gag gtc gtc aat tgt tca gca aga act gat ttg 1440
246 Glu Thr Lys Leu Pro Glu Val Val Asn Cys Ser Ala Arg Thr Asp Leu
247 465          470          475          480
249 aat atg ctc gct aaa cat tac gcc gtt gcc att gga tgt gag atc gtt 1488
250 Asn Met Leu Ala Lys His Tyr Ala Val Ala Ile Gly Cys Glu Ile Val
251          485          490          495
253 ttt ttc gta cca gac agg gaa gaa gat ttt gcg tct tac act gaa ttt 1536
254 Phe Phe Val Pro Asp Arg Glu Glu Asp Phe Ala Ser Tyr Thr Glu Phe
255          500          505          510
257 ctc cgg tac ctt agc tca aaa gat cgg gcg ggt gtt gcc aaa tta gat 1584
258 Leu Arg Tyr Leu Ser Ser Lys Asp Arg Ala Gly Val Ala Lys Leu Asp
259          515          520          525
261 gat ggt aca act tta ttc ttg gtg cct cca tca gat ttc tta act gat 1632
262 Asp Gly Thr Thr Leu Phe Leu Val Pro Pro Ser Asp Phe Leu Thr Asp
263          530          535          540
265 gta ctc caa gtg acc cgt caa gaa cgg cta tat ggt gtt gtt ctc aag 1680
266 Val Leu Gln Val Thr Arg Gln Glu Arg Leu Tyr Gly Val Val Leu Lys
267 545          550          555          560
269 tta ccc ccg cca gcc gtt cct gtt aca gca tca tac aga caa gaa tct 1728
270 Leu Pro Pro Pro Ala Val Pro Val Thr Ala Ser Tyr Arg Gln Glu Ser
271          565          570          575
273 cag tcc aat cct ctg cat tat atg gat caa gcc cgg gat tca cct gcc 1776
274 Gln Ser Asn Pro Leu His Tyr Met Asp Gln Ala Arg Asp Ser Pro Ala
275          580          585          590
277 aat gct agt cac agt tta tat cct cct agg gaa aat tac att agg ggt 1824
278 Asn Ala Ser His Ser Leu Tyr Pro Pro Arg Glu Asn Tyr Ile Arg Gly
279          595          600          605
281 gca cca gaa cat ttg aca gct gct tca aaa cca tct gtt agc gag cct 1872
282 Ala Pro Glu His Leu Thr Ala Ala Ser Lys Pro Ser Val Ser Glu Pro
283          610          615          620
285 ctc aga ata cct aat aat gca gcg cct caa gct ggg gtt agt tta act 1920
286 Leu Arg Ile Pro Asn Asn Ala Ala Pro Gln Ala Gly Val Ser Leu Thr
287 625          630          635          640
289 ccg gag ctt tta gcc act ctg gca tct att ctc cct gca act tct caa 1968
290 Pro Glu Leu Leu Ala Thr Leu Ala Ser Ile Leu Pro Ala Thr Ser Gln
291          645          650          655
293 cct gct gcc cct gag agt cac caa cct atg tca gga cct tca aca gtt 2016
294 Pro Ala Ala Pro Glu Ser His Gln Pro Met Ser Gly Pro Ser Thr Val
295          660          665          670
297 gtt tcc aca gca cat cag tcc aat gga ctg tac aat gga gaa gca ccg 2064
298 Val Ser Thr Ala His Gln Ser Asn Gly Leu Tyr Asn Gly Glu Ala Pro
299          675          680          685
301 tct caa gct tgg aaa aga ggt cca caa aca gtt cat gat gcg tca aat 2112
302 Ser Gln Ala Trp Lys Arg Gly Pro Gln Thr Val His Asp Ala Ser Asn

```

VERIFICATION SUMMARY

DATE: 08/13/2001

PATENT APPLICATION: US/09/920,705

TIME: 11:35:38

Input Set : A:\Uw972141.app

Output Set: N:\CRF3\08132001\I920705.raw

L:12 M:270 C: Current Application Number differs, Replaced Application Number

L:13 M:271 C: Current Filing Date differs, Replaced Current Filing Date